

System for providing services in real-time over the Internet

ABSTRACT

5 The present invention is a service provider/customer matching system designed to provide customers with real-time indication of each service provider's state of availability and telephony connectivity. In a preferred embodiment, the invention includes a web site, which stores, updates, and displays service provider information. A customer would, upon accessing this web site, conduct a search for a particular type of service provider and be able
10 to tell immediately if one or more service providers matching the search criteria were available at that moment to provide services. After the customer selected a service provider, the customer would have the option of viewing more detailed information about the service provider, sending a message to the service provider if the service provider is not immediately available, or initiating a telephone conversation with the service provider if he
15 or she is on call and available. While the call is taking place, the customer would accrue charges on a per minute basis. The service provider would later receive all or part of the accrued charges for that call.

BRIEF DESCRIPTION OF THE INVENTION

20 The present invention relates generally to electronic commerce using digital and analog networks. More specifically, the present invention relates to a network application for identifying and communicating with service providers and for computing the communication time period and allocating revenue based thereon.

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BACKGROUND OF THE INVENTION

Consumers interested in acquiring voice-based services, i.e., services that can be provided over a telephone, must first identify the service provider who is capable of providing the
30 required services. At present, this usually means perusing a telephone directory, which can become frustrating and time-consuming if the service providers telephoned are not immediately available. A phone book (whether a bound paper book or an electronic directory) is also not very effective if the service provider's business category is not known.

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Over the years, a number of systems have been developed that partially address this problem. In particular, these include systems that attempt to match potential customers with potential service providers. They range from free bulletin-board-style Internet web sites to sophisticated Internet-based consulting services.

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One such system is similar to an electronic "marketplace." Users submit via the Internet a description of the services they need to an Internet-based "exchange." These descriptions include the subject matter of the requested service, time constraints for service delivery, and the proposed price to be paid for the services. The exchange then identifies potential service providers and facilitates bidding for the job by the selected service providers, some of whom may or may not have been selected previously by the user. Once the service providers' bids have been received by the user, the user sends a full job request to one or more service providers of particular interest. The service providers who remain interested in the proposed work then submit a final bid to the user. This bid may also include the expert's particular qualifications and conditions for accepting the work. After the work has been completed, the expert contacts the exchange for payment. Although this system is beneficial, users still do not immediately know if an expert is available and the response from the expert is neither immediate nor direct.

20 Another prior art system maintains a list of independent professors available for answering questions via the Internet. The system functions as a middleman between the customer and the professors. The customer contacts the system via the Internet with a question. The system then contacts various experts within the appropriate field via the Internet and forwards the customer's question to the experts. Here too, customers do not immediately know if an expert is available, and the response from the expert is not immediate.

There is another system that allows users to post via the Internet questions for experts related to specific topical categories. However, there is no guarantee that an expert will answer the question as the user does not pay for the services and the experts are not paid. Again, presuming the expert is willing to answer a question, users do not immediately know if an expert is available and the response from the expert is not immediate nor direct.

Another system allows users to post questions to an electronic "bulletin board." Other users, whether expert or not, then provide answers or comments on a voluntary basis. This

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system, though useful, suffers from many of the same problems as the system described above.

SUMMARY OF THE INVENTION

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An object of this invention is to provide a system that will: (1) match customers with service providers; (2) provide customers with real-time notification of each of the service provider's state of availability; and (3) permit the customer and an available service provider to communicate with each other in real time.

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One embodiment includes an Internet web site as part of the delivery mechanism of the invention. Customers who want to purchase services through the web site will register with the web site. Registration can include providing a credit card number for billing purposes. Service providers who offer their services over the web site will register as well. Each

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service provider's registration information includes a description of the service or services provided, the service provider's qualifications, and information concerning the service provider's fees. The service categories can include any service deliverable over a telephone. Customers will be able to search for and identify one or more service providers who may be able to provide the desired services. Once one or more service providers are identified, the

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system will also identify which service providers are available to provide immediate services so that customers will know if a particular service provider is available to provide service at that given moment. The customer will also have the option of viewing the credentials or qualifications of the service providers. If a service provider is not available to speak with customers at that moment, the customers can send a message to the service

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provider through the web site. If, on the other hand, the service provider is immediately available, the customer can initiate a "service call" through the web site with the service provider. In such a case, the computer associated with the web site initiates a telephonic conference call between the service provider and the customer, billing the customer for the duration the conference call at the rate set by the service provider. The service provider

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then receives all or part of the fees collected from the customer by the web site.

APPLICATION OF THE INVENTION

Peter, a graduate student in economics, happens to be an expert user of a Microsoft Excel.

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To earn extra money while writing his thesis, Peter decides to post his Excel-help services

on the subject web site, an Internet based implementation of the invention. He registers at the site and lists himself under "Computer Help" and "Excel" at the rate of \$1.00 per minute. During the registration process, Peter provides a brief description of his abilities and includes an Internet link (or "hyperlink") to his on-line resume. Whenever Peter is at home alone studying for long stretches in the evening, he signs on to the subject web site and changes his state of availability to "On Call," or immediately available to receive clients.

Danielle is a management consultant building a regression model on Excel for a large clothing retailer. At midnight in the office, she is having trouble writing a macro on Excel. She goes to the subject web site, browses under "Computer Help" and "Excel" and finds Peter's posting. Peter's credentials appear to match Danielle's need for someone to help her with her Excel macro, and the "light bulb" icon next to Peter's entry indicates that he is "On Call." Danielle clicks on Peter's entry to get his contact information. Since she hasn't used the subject web site before, she is guided through a short registration where she chooses a user name and password and enters her credit-card number. She then initiates contact with Peter. Her telephone rings and automated voice tells her that her call with Peter will be billed to her credit card at \$1.00 per minute. Danielle responds to a prompt to accept the call, and the web site completes the call between Peter and Danielle.

Peter and Danielle talk until her problem is solved, which takes eight minutes. Danielle's credit card is billed for eight dollars. She receives a confirming message via electronic mail notifying her of this, along with a request to evaluate Peter's service, which she does. Peter's web site account is credited for eight dollars minus a fee collected by the web site. Once Peter's web site account has accumulated a surplus of \$50, he receives a check from the web site in the mail. After receiving many positive reviews from online clients such as Danielle, Peter is inundated with Excel-help requests whenever he goes "On Call," enabling him to raise his rates to \$1.50 per minute.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates the system for identifying service providers and connecting customers with service providers in accordance with one embodiment of the invention.

FIG. 2 illustrates an alternative embodiment of the system for identifying service providers and connecting customers with service providers.

FIG. 3 illustrates an initial data entry screen in accordance with one embodiment of the invention.

FIG. 4 is an illustration of an exemplary web page providing an entry form for the registration of a service.

FIG. 5 is an illustration of an exemplary web page requesting confirmation of information submitted in the service registration form.

FIG. 6 illustrates a window that displays the results of a search for a particular type of service provider in accordance with one embodiment of the invention.

FIG. 7 illustrates a window that displays a list of service providers available in a particular category in accordance with one embodiment of the invention.

FIG. 8 illustrates a window that displays a list of service providers available in a particular category, with each service provider's state of availability represented by a color code in accordance with one embodiment of the invention.

FIG. 9 illustrates a window that displays a list of service providers available in a particular category, with each service provider's state of availability represented by geometric shapes in accordance with one embodiment of the invention.

FIG. 10 illustrates the process by which service providers change their state of availability through the use of a telephone in accordance with one embodiment of the invention.

FIG. 11 is an illustration of an exemplary web page containing an account sign-on form.

FIG. 12 illustrates a window that displays account information for a particular user or service provider account in accordance with one embodiment of the invention.

FIG. 13 is an illustration of an exemplary web page providing a customer with the option of engaging the services of the selected service provider.

FIG. 14 illustrates the process by which the controller computer 300 establishes a connection between service providers and customers.

DETAILED DESCRIPTION OF THE INVENTION

As shown in FIG. 1, customer computers 100 and service provider computers 200 are connected through a network 500 (such as the Internet) to host computer or web server ("controller computer") 300. Persons skill in the art will recognize that said controller computer 300 may consist of more than one computer working together to provide the controller computer 300 functions described herein. The customers and service providers each have telephones 400 that are connected to the telephone network 600. In FIG. 1, the Internet network 500 and telephone network 600 are shown as two separate entities, though persons skilled in the art will realize that they do overlap. See FIG. 2. Additionally, the controller computer 300 has the functionality of a standard web server, capable of interacting dynamically with service providers and customers. In addition to the standard operation, the controller computer 300 is linked to a telephone interface 700 that enables the controller computer 300 to set up, initiate, confirm, and track conversations between the customers and service providers. The controller computer 300 has the ability to accept phone calls from service providers for the purpose of changing the service provider's state of availability. In accordance with FIG. 1 the computers 100 and 200 are connected to the controller computer 300 by the network 500. Specifically, customers and service providers will use their computers to establish a connection to the Internet network 500. Once a connection has been established, service providers and customers will enter the URL, or Internet address, of the controller computer 300. In a preferred embodiment, customers and service providers will be presented with the web page illustrated in FIG. 3.

Registration is required before customers can purchase services or service providers can offer services on the web site. Customers will be required to provide credit card information, while service providers may or may not submit credit card information. Once the information has been submitted, the data will be stored in the database 310 maintained on the controller computer 300.

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In addition to the registration process just discussed, service providers will have to submit information about each service they will provide. In the preferred embodiment, this information will be submitted using the web page illustrated in FIG. 4. In this page, service providers must submit a valid username and password combination 1000, a service title 1010, service description 1020, and price per minute 1030. Service providers will also have to select the desired service area 1040. Once this information has been entered, the Next 1050 hyperlink will be selected. At that time, the controller computer 300 will confirm the username and password combination by comparing the data submitted to data stored in the database 310 maintained on the controller computer 300. If the username and password combination is successfully verified, the service ^{provider} ~~provided~~ is presented with a confirmation screen, which is illustrated in FIG. 5, showing all of the information entered in the previous screen. The service provider will then have the option of going back 1100 to the previous page to edit the information, or submitting 1110 the information. Once submitted, the controller computer 300 will then update the database 310 maintained on the controller computer 300.

Customers will have the option of executing a keyword search 510 for service providers. The keyword search can be executed from the home web page in the preferred embodiment (FIG. 3). Persons skilled in the art will recognize that a keyword search consists of scanning a database for words that match the keywords entered. In this case, the keyword search will be executed against the database 310 maintained on the controller computer 300. In the preferred embodiment, users will view the list of service providers 1200 matching the keyword search criteria on a web page illustrated in FIG. 6. Customers will have the option of viewing the service providers 1200 listed according to price 1210, availability 1220, or customer evaluations 1230 in either ascending 1240 or descending 1250 order, as indicated by the web page illustrated in FIG. 6. Persons skilled in the art will recognize that the service providers can be listed in any number of ways. As an alternative to a keyword search, customers can select one of the categories 520 to view a predetermined list of service providers as illustrated in FIG. 3. In a preferred embodiment, users selecting a category will view a web page similar to the illustration in FIG. 7.

In the preferred embodiment, service providers will be in one of three states of availability as indicated in FIG. 7. One state indicates that the service provider is "On Call Now" and immediately available 1300. This state is entered when the service provider is available to provide a service but is not currently doing so. Another state indicates that the service

provider is "On Call Now," but not immediately available 1310. This state is entered when an "On-Call" service provider is providing a service. Another state indicates that the service provider is not "On Call Now" 1320. This means that the service provider is not available to provide services.

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Persons skilled in the art will recognize that the availability of the service providers can be represented in a number of ways. FIGS. 7, 8, and 9 are representative of various alternatives. FIG. 7 represents availability with text messages (1300, 1310, 1320). FIG. 8 represents availability with colors 1330. FIG. 9 represents availability with geometric shapes 1340.

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In the preferred embodiment, the service provider may change his or her state of availability in two ways. In one way, the service providers will use their telephone 400 (FIG. 1) to communicate with the controller computer 300 through the controller computer's 300 telephone interface 700. First, the service provider dials the appropriate controller computer 300 phone number. Once contact has been established, the service provider enters her username and password 1400 as illustrated in FIG. 10. This can be done using the telephone keypad; or through interaction with voice recognition software. After the controller computer 300 confirms the user name and password combination, the service provider will be given the option of selecting a state of availability 1410. The service provider will be able to select the "On-Call" 1420 or "Off-Call" state 1430 responding to recorded prompts from the controller computer 300. After making a selection, the service provider receives a confirmation announcement 1440.

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Service providers can also change their state of availability by using their computer 200 connection to the controller computer 300 through the network 500 (FIG. 1). In addition to allowing the service provider to change his or her state of availability, the following steps will be used by customers and service providers to view their account information. In the preferred embodiment, the service provider or customer can select the "My Account" 530 hyperlink from any web page provided by the controller computer 300 (See FIG. 3 as an example). Once this selection has been made, the service provider or customer will be required to provide a username and password 1500, as illustrated in FIG. 11, before continuing. Note that in the preferred embodiment, users will also have the option of registering by selecting the Register Now 1510 hyperlink. Once the username and password have been entered, the user will select the Submit 1520 hyperlink. After verification of the

username and password by the controller computer 300, the user will, in the preferred embodiment, be presented with the web page illustrated in FIG. 12. In the Services You Are Selling 1600 table, service providers will be able to view a summary of services provided. The service provider will also have the option of toggling his or her state of availability from "On Call" to "Off Call" and vice-versa by selecting the availability 1610 hyperlink. Additionally, the service provider will have the option of deleting some or all of the services currently provided by selecting the Delete 1620 hyperlink. Moreover, the service provider will have the option of viewing the web page illustrated in FIG. 4, and described above, in order to modify the service description by selecting the Alter 1630 hyperlink. Customers and service providers will be given a summary of account activity 1640 on this page as well in the preferred embodiment. This information includes services provided 1660, services purchased 1650, and the current month's billing and payment summary 1670. Finally, customers and service providers will have the option of viewing the previous month's billing and payment summary 1680 as well as the next month's billing and payment summary when not viewing the current month's billing and payment summary.

Once a customer has selected a service provider, he or she will have to begin the process of establishing a link with the selected service provider. In a preferred embodiment, the customer will select a "Call Me" 1800 hyperlink as indicated in Fig. 13. Once this is done, a process illustrated in Fig. 14, is begun. Initially, the controller computer 300 places a telephone call 1900 to the service provider. If the service provider cannot be contacted, the controller computer 300 will telephone the customer 1910 to apologize for the inconvenience. If the service provider answers the telephone, the controller computer 300 will play a message 1920 for the service provider requesting that he or she accept the telephone call. Once the call is accepted by the service provider, the controller computer 300 will place a telephone call to the customer and switch 1930 the service provider's state of availability to "on call" but not immediately available. If the controller computer 300 cannot get through to the customer, it will play a message 1940 for the service provider to inform him or her of the problem and will terminate the telephone call. The controller computer 300 will then switch 1950 the service provider's state of availability back to "On Call" and immediately available. If the controller computer 300 can get through to the customer, it will play a message 1960 for the customer requesting that he or she accept the telephone call. If the customer will not accept the telephone call, the customer computer 300 will play a message 1940 for the service provider to inform him or her of the customer's decision and will terminate the telephone call. The controller computer 300 will then switch